

IN THE CLAIMS:

1. (Currently Amended) Power storage system, intended to transmit power to and from a driving system of a vehicle, said driving system comprising at least one electric apparatus [(12)],
 comprising a power storage [(20)] having a stator-provided winding [(24)] and at least one rotor [(21)] provided with a magnetic-flux generating device, said rotor [(21)] being connected to at least one flywheel [(22)] intended for storage of energy in the form of kinetic energy in at least one rotary mass [(23)],
 said power storage [(20)] being arranged
 to transmit power to and from said electric apparatus [(12)],
~~characterized in~~
~~that~~ wherein said stator [(24)] comprises at least a first winding [(30)] arranged to operate at low voltage as well as a second winding [(31)] arranged to operate at high voltage, said first and second windings being arranged to operate independently of each other.

2. (Currently Amended) Power storage system according to ~~the preceding~~
~~claim~~ claim 1,
~~characterized in~~
~~that~~ wherein at least one energy storage [(14)] is comprised, which energy storage is connected with said electric apparatus [(12)], said power storage [(20)] being arranged to transmit power to and from said energy storage [(14)].

3. (Currently Amended) Power storage system according to ~~any one of~~
~~claim~~[(s)] 1 [(or 2)],
~~characterized in~~
~~that~~ wherein said power storage [(20)] is arranged to receive power that has been transmitted from an external source.

4. (Currently Amended) Power storage system according to ~~any one of the~~
~~preceding claims~~ claim 1,
~~characterized in~~
~~that~~ wherein said magnetic-flux generating device in the rotor [(21)] comprises

permanent magnets.

5. (Currently Amended) Power storage system according to ~~any one of~~ claim[[s]] 1[[-3]],
~~characterized in~~
~~that~~ wherein said magnetic-flux generating device in the rotor [[(21)]] comprises a squirrel cage winding.

6. (Currently Amended) Power storage system according to ~~any one of the~~ preceding claims claim 1,
~~characterized in~~
~~that~~ wherein said rotor [[(21)]] is mounted with magnetic bearings.

7. (Currently Amended) Power storage system according to claim 6,
~~characterized in~~
~~that~~ wherein said rotor [[(21)]] also is mounted with sliding bearings.

8. (Currently Amended) Power storage system according to ~~any one of the~~ preceding claims claim 1,
~~characterized in~~
~~that~~ wherein said first winding [[(30)]] is arranged to operate at a voltage that is lower than 380 V.

9. (Currently Amended) Power storage system according to claim 8,
~~characterized in~~
~~that~~ wherein said first winding [[(30)]] is arranged to operate at a voltage that is in the interval of 6–50 V.

10. (Currently Amended) Power storage system according to ~~any one of the~~ preceding claims claim 1,
~~characterized in~~
~~that~~ wherein said second winding [[(31)]] is arranged to operate at a voltage that is higher than 380 V.

11. (Currently Amended) Power storage system according to claim 10,
~~characterized in~~
~~that~~ wherein said second winding ~~[[31]]~~ is arranged to operate at a voltage that is in the interval of 1–24 kV.

12. (Currently Amended) Power storage system according to ~~any one of the~~
~~preceding claims~~ claim 1,
~~characterized in~~
~~that~~ wherein said stator ~~[[24]]~~ is air-gap wound.

13. (Currently Amended) Power storage system according to ~~any one of the~~
~~preceding claims~~ claim 1,
~~characterized in~~
~~that~~ wherein said power storage ~~[[20]]~~ is gyro suspended.

14. (Currently Amended) Power storage system according to ~~any one of the~~
~~preceding claims~~ claim 1,
~~characterized in~~
~~that~~ wherein said flywheel ~~[[22]]~~ comprises two rotary masses ~~[[23]]~~ that are arranged to rotate in opposite directions of rotation in relation to each other.

15. (Currently Amended) Power storage system according to ~~any one of the~~
~~preceding claims~~ claim 1,
~~characterized in~~
~~that~~ wherein at least one of said windings ~~[[30, 31]]~~ comprises a conductor surrounded by a first semiconducting layer, said first semiconducting layer is then surrounded by a layer of fixed insulation, said first layer of fixed insulation is then surrounded by a second semiconducting layer.

16. (Currently Amended) Power storage system according to ~~any one of the~~
~~preceding claims~~ claim 1,
~~characterized in~~
~~that~~ wherein said rotor ~~[[24]]~~ comprises a first core ~~[[32]]~~, a second core ~~[[33]]~~ as well as a third core ~~[[34]]~~, the first winding ~~[[30]]~~ of the stator being arranged

between said first [(32)] and said second [(33)] core and the second winding [(31)] of the stator being arranged between said second [(33)] and said third [(34)] core.

17. (Cancelled).